

Claims

1. An axial piston machine (1) with cylinder bores (9) arranged in a cylinder drum (4), pistons (10) which are axially movable in the cylinder bores (9) and springs (22) arranged in the cylinder bores (9), each piston (10) being pre-stressed against a swash plate (13) by a respective spring (22) which is supported against the cylinder drum (4),
5 **characterised in that**
each spring (22) has a reduction in diameter (23) between the upper and lower end.
- 10 2. An axial piston machine according to Claim 1,
characterised in that
each of the springs is a helical compression spring (22) and in that the reduction in diameter (23) reduces the diameter of the course of the outer contour of the helical compression spring (22) in a
15 radially symmetrical circle at each point of the centre axis of the helical compression spring (22).
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3. An axial piston machine according to Claim 1 or 2,
characterised in that
25 the reduction in diameter (23) is arranged coaxially with the centre axis of the helical compression spring (22).
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4. An axial piston machine according to one of the preceding claims,
characterised in that

the reduction in diameter (23) reduces the course of the outer contour of the helical compression spring (22) concavely.

5 5. An axial piston machine according to one of the preceding claims,
characterised in that
the reduction in diameter (23) reduces the diameter of the course of the outer contour of the helical
10 compression spring (22) most greatly at the height of the centre of the helical compression spring (22).

6. An axial piston machine according to one of the preceding claims,
15 **characterised in that**
the reduction in diameter (23) extends from the upper end to the lower end of the helical compression spring (22).

20 7. An axial piston machine according to one of the preceding claims,
characterised in that
the cylinder drum (4) is pre-stressed against a control plate (20) by the helical compression
25 springs (22).

8. An axial piston machine according to one of the preceding claims,
characterised in that
30 each helical compression spring (22) is supported in the region around an opening (21) of the cylinder bore (9), which can be connected to a high pressure or low pressure connection.

9. An axial piston machine according to one of the preceding claims,

characterised in that

5 each piston (10) has a cutout (16) which opens towards the cylinder bore (9).

10. An axial piston machine according to Claim 9,

characterised in that

10 the cutout (16) is cylindrical.

11. An axial piston machine according to Claim 9 or 10,

characterised in that

15 the helical compression spring (22) is supported against the respective base of the cutout (16).

12. An axial piston machine according to one of the

preceding claims,

characterised in that

20 each helical compression spring (22) is made from and/or coated with spring steel.

Translator's Note

Page 3, lines 4 & 6 of the German: "gleichmäßig" is given twice in the German, but only translated once.